SYNTHESIS ALGORITHM OF ADAPTIVE DYNAMIC VIBRATION ABSORBER TO SUPPRESS BEAM VIBRATION

Chermtong Prattanaruk[1], Jiraphon Srisertpol[1]

[1]School of Mechanical Engineering, Suranaree University of Technology,
Nakhon Ratchasima 30000, Thailand

Abstract

Vibration absorber is one of the most common methods uses for control vibration for general system. Normally, vibration absorber is designed to have natural frequency equal to frequency of exciting force acting on structure or main system. But, the nature of exciting forces is usually dynamic form which has broad range of frequency. Passive vibration absorber then has limited in usage while, adaptive vibration control achieves attenuation of a harmonic excitation through tuning a reactive device. The objectives of this study are investigated the use of adaptive dynamic vibration absorber to control structure vibration by using tuned absorption natural frequency method with gradient adaptive control algorithm.

KEYWORDS: Natural frequency, Adaptive Control, Vibration absorber.

Published in : Proceedings of the 8th Annual National Symposium on Computational Science and Engineering, pp 389-392.